

Portland Cement Manufacturing Industry NESHAP Summary of Requirements¹

Definitions

40 CFR part 63 subpart LLL

Definitions: 63.1341

§63.1341 Definitions.

All terms used in this subpart that are not defined in this section have the meaning given to them in the CAA and in subpart A of this part.

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Alkali bypass means a duct between the feed end of the kiln and the preheater tower through which a portion of the kiln exit gas stream is withdrawn and quickly cooled by air or water to avoid excessive buildup of alkali, chloride and/or sulfur on the raw feed. This may also be referred to as the “kiln exhaust gas bypass”.

Bagging system means the equipment which fills bags with portland cement.

Bin means a manmade enclosure for storage of raw materials, clinker, or finished product prior to further processing at a portland cement plant.

Clinker means the product of the process in which limestone and other materials are heated in the kiln and is then ground with gypsum and other materials to form cement.

Clinker cooler means equipment into which clinker product leaving the kiln is placed to be cooled by air supplied by a forced draft or natural draft supply system.

Continuous monitor means a device which continuously samples the regulated parameter specified in §63.1350 of this subpart without interruption, evaluates the detector response at least once every 15 seconds, and computes and records the average value at least every 60 seconds, except during

¹ Disclaimer: The content provided in this software tool is intended solely as an aid in assessing requirements for compliance under the National Emissions Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry, 40 CFR part 63 subpart LLL. Any variation between the rule and the information provided in this tool is unintentional, and, in the case of such variations, the requirements of the rule govern. Use of this tool does not constitute an assessment by the EPA of the applicability of the rule to any particular facility. In any particular case, the EPA will make its assessment by applying the law and regulations to the specific facts of the case.

allowable periods of calibration and except as defined otherwise by the continuous emission monitoring system performance specifications in appendix B to part 60 of this chapter.

Conveying system means a device for transporting materials from one piece of equipment or location to another location within a facility. Conveying systems include but are not limited to the following: feeders, belt conveyors, bucket elevators and pneumatic systems.

Conveying system transfer point means a point where any material including but not limited to feed material, fuel, clinker or product, is transferred to or from a conveying system, or between separate parts of a conveying system.

Crusher means a machine designed to reduce large rocks from the quarry into materials approximately the size of gravel.

Dioxins and furans (D/F) means tetra-, penta-, hexa-, hepta-, and octa-chlorinated dibenzo dioxins and furans.

Facility means all contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

Feed means the prepared and mixed materials, which include but are not limited to materials such as limestone, clay, shale, sand, iron ore, mill scale, cement kiln dust and fly ash, that are fed to the kiln. Feed does not include the fuels used in the kiln to produce heat to form the clinker product.

Finish mill means a roll crusher, ball and tube mill or other size reduction equipment used to grind clinker to a fine powder. Gypsum and other materials may be added to and blended with clinker in a finish mill. The finish mill also includes the air separator associated with the finish mill.

Greenfield kiln, in-line kiln/raw mill, or raw material dryer means a kiln, in-line kiln/raw mill, or raw material dryer for which construction is commenced at a plant site (where no kilns and no in-line kiln/raw mills were in operation at any time prior to March 24, 1998) after March 24, 1998.

Hazardous waste is defined in §261.3 of this chapter.

In-line coal mill means those coal mills using kiln exhaust gases in their process. Coal mills with a heat source other than the kiln or coal mills using exhaust gases from the clinker cooler are not an in-line coal mill.

In-line kiln/raw mill means a system in a portland cement production process where a dry kiln system is integrated with the raw mill so that all or a portion of the kiln exhaust gases are used to perform the drying operation of the raw mill, with no auxiliary heat source used. In this system the kiln is capable of operating without the raw mill operating, but the raw mill cannot operate without the kiln gases, and consequently, the raw mill does not generate a separate exhaust gas stream.

Kiln means a device, including any associated preheater or precalciner devices, inline raw mills, inline coal mills or alkali bypasses that produces clinker by heating limestone and other materials for subsequent production of portland cement. Because the inline raw mill and inline coal mill are considered

an integral part of the kiln, for purposes of determining the appropriate emissions limit, the term kiln also applies to the exhaust of the inline raw mill and the inline coal mill.

Kiln exhaust gas bypass means alkali bypass.

Monovent means an exhaust configuration of a building or emission control device (e. g. positive pressure fabric filter) that extends the length of the structure and has a width very small in relation to its length (i. e., length to width ratio is typically greater than 5:1). The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features.

New brownfield kiln, in-line kiln raw mill, or raw material dryer means a kiln, in-line kiln/raw mill or raw material dryer for which construction is commenced at a plant site (where kilns and/or in-line kiln/raw mills were in operation prior to March 24, 1998) after March 24, 1998.

New source means any source that commenced construction or reconstruction after May 6, 2009, for purposes of determining the applicability of the kiln, clinker cooler and raw material dryer emissions limits for mercury, PM, THC, and HCl.

One-minute average means the average of thermocouple or other sensor responses calculated at least every 60 seconds from responses obtained at least once during each consecutive 15 second period.

Open clinker storage pile means a clinker storage pile on the ground for more than three days that is not completely enclosed in a building or structure.

Operating day means any 24-hour period beginning at 12:00 midnight during which the kiln produces any amount of clinker. For calculating the 30-day rolling average emissions, kiln operating days do not include the hours of operation during startup or shutdown.

Portland cement plant means any facility manufacturing portland cement.

Raw material dryer means an impact dryer, drum dryer, paddle-equipped rapid dryer, air separator, or other equipment used to reduce the moisture content of feed or other materials.

Raw mill means a ball and tube mill, vertical roller mill or other size reduction equipment, that is not part of an in-line kiln/raw mill, used to grind feed to the appropriate size. Moisture may be added or removed from the feed during the grinding operation. If the raw mill is used to remove moisture from feed materials, it is also, by definition, a raw material dryer. The raw mill also includes the air separator associated with the raw mill.

Rolling average means the weighted average of all data, meeting QA/QC requirements or otherwise normalized, collected during the applicable averaging period. The period of a rolling average stipulates the frequency of data averaging and reporting. To demonstrate compliance with an operating parameter a 30-day rolling average period requires calculation of a new average value each operating day and shall include the average of all the hourly averages of the specific operating parameter. For demonstration of compliance with an emissions limit based on pollutant concentration a 30-day rolling average is comprised of the average of all the hourly average concentrations over the previous 30 operating days. For demonstration of compliance with an emissions limit based on lbs-pollutant per

production unit the 30-day rolling average is calculated by summing the hourly mass emissions over the previous 30 operating days, then dividing that sum by the total production during the same period.

Run average means the average of the recorded parameter values for a run.

Shutdown means the cessation of kiln operation. Shutdown begins when feed to the kiln is halted and ends when continuous kiln rotation ceases.

Sorbent means activated carbon, lime, or any other type of material injected into kiln exhaust for the purposes of capturing and removing any hazardous air pollutant.

Startup means the time from when a shutdown kiln first begins firing fuel until it begins producing clinker. Startup begins when a shutdown kiln turns on the induced draft fan and begins firing fuel in the main burner. Startup ends when feed is being continuously introduced into the kiln for at least 120 minutes or when the feed rate exceeds 60 percent of the kiln design limitation rate, whichever occurs first.

TEQ means the international method of expressing toxicity equivalents for dioxins and furans as defined in U.S. EPA, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989.

Total organic HAP means, for the purposes of this subpart, the sum of the concentrations of compounds of formaldehyde, benzene, toluene, styrene, m-xylene, p-xylene, o-xylene, acetaldehyde, and naphthalene as measured by EPA Test Method 320 or Method 18 of appendix A to this part or ASTM D6348-031 or a combination of these methods, as appropriate. If measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating the total organic HAP value. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 18 fractions) may include a combination of method detection level data and analytical data reported above the method detection level. The owner or operator of an affected source may request the use of other test methods to make this determination under paragraphs 63.7(e)(2)(ii) and (f) of this part.

¹When using ASTM D6348-03, the following conditions must be met:

(1) The test plan preparation and implementation in the Annexes to ASTM D6348-03, Sections A1 through A8 are mandatory; (2) For ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be determined for each target analyte (see Equation A5.5); (3) For the ASTM D6348-03 test data to be acceptable for a target analyte percent R must be 70 percent $\geq R \leq 130$ percent; and (4) The percent R value for each compound must be reported in the test report and all field measurements corrected with the calculated percent R value for that compound using the following equation: Reported Result = The measured concentration in the stack divided by the calculated percent R value and then the whole term multiplied by 100.

Totally enclosed conveying system transfer point means a conveying system transfer point that is enclosed on all sides, top, and bottom.